

<b>FORM PTO-1449</b> <small>(Fill-A-Form 7.92)</small> <b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)										U. S. DEPARTMENT OF COMMERCE Patent and Trademark Office										Attorney's Docket Number <b>5820.640</b>										Serial Number Not Yet Assigned									
Applicant <b>Daniel E. Resasco, et al.</b>										Filing Date <b>Herewith</b>										Group <b>Unknown</b>																			

U. S. PATENT DOCUMENTS																			
EXAM INIT.		DOCUMENT NUMBER								DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE					
/SH/	AA	3	7	4	6	6	5	7	07/17/1973	Miller et al.	252	437							
	AB	4	4	5	6	6	9	4	06/26/1984	Blaskie et al.	502	74							
	AC	4	5	7	4	1	2	0	03/04/1986	Thompson	502	220							
	AD	4	6	6	3	2	3	0	05/05/1987	Tennent	428	367							
	AE	5	1	6	5	9	0	9	11/24/1992	Tennent et al.	423	447							
	AF	5	2	2	7	0	3	8	07/13/1993	Smalley et al.	204	173							
	AG	5	3	0	0	2	0	3	04/05/1994	Smalley	204	157							
	AH	5	4	0	5	9	9	6	04/11/1995	Suzuki et al.	562	548							
	AI	5	4	8	2	6	0	1	01/09/1996	Ohshima et al.	204	173							
	AJ	5	5	4	3	3	7	8	08/06/1996	Wang	502	174							
	AK	5	5	5	6	5	1	7	09/17/1996	Smalley	204	157							
	AL	5	5	6	0	8	9	8	10/01/1996	Uchida et al.	423	461							
	AM	5	5	7	8	5	4	3	11/26/1996	Tennent et al.	502	180							
	AN	5	5	8	7	1	4	1	12/24/1996	Ohshima et al.	423	461							
	AO	5	5	9	1	3	1	2	01/07/1997	Smalley	204	157							
	AP	5	6	0	3	9	0	7	02/18/1997	Grochowski	423	210							
	AQ	5	6	4	8	0	5	6	07/15/1997	Tanaka	423	445							
	AR	5	6	4	1	4	6	6	06/24/1997	Ebbesen et al.	423	447							
	AS	5	6	9	5	7	3	4	12/09/1997	Ikazaki et al.	423	461							
	AT	5	6	9	8	1	7	5	12/16/1997	Hiura et al.	423	447							
	AU	5	7	0	7	9	1	6	01/13/1998	Snyder et al.	502	416							
	AV	5	7	4	4	2	3	5	04/28/1998	Creehan	428	364							
	AW	5	7	5	3	0	8	8	05/19/1998	Olk	204	173							
↓	AX	5	7	7	3	8	3	4	06/30/1998	Yamamoto et al.	204	192							
	AY	5	7	8	0	1	0	1	07/14/1998	Nolan et al.	427	216							
/SH/	AZ	5	8	1	4	2	9	0	09/29/1998	Niu et al.	423	344							

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EXAM INIT.		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/SH/	AZA	5	8	7	7	1	1	0	03/02/1999	Snyder et al.	502	180	
/SH/	AZB	5	9	6	5	2	6	7	10/12/1999	Nolan et al.	428	408	
/SH/	AZC	5	9	8	5	2	3	2	11/16/1999	Howard et al.	423	447	
/SH/	AZD	5	9	9	7	8	2	3	12/07/1999	Lieber et al.	423	249	

## FOREIGN PATENT DOCUMENTS

EXAM INIT.		Office	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
								YES	NO
/SH/	BA	PCT/US00/15362			International Search Report				
	BB	PCT/US02/23155		07/21/2003	International Search Report				
	BC	WO 00/73205		12/07/2000	PCT/US				
	BD	WO 97/09272		03/13/1997	PCT/US			X	
	BE	WO 98/392550		09/11/1998	PCT/US			X	
	BF	WO 98/42620		10/01/1998	PCT/JP				X
	BG	406122489		05/1994	Japan			X	
↓	BH	WO 00/17102		03/30/2000	PCT International Publication				

## NON PATENT DOCUMENTS

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/SH/	CA	Alvarez et al., "Synergism of Co and Mo in the atalytic production of single-wall carbon nanotubes by decomposition of CO", Elsevier Science Ltd., Carbon 39 (2001), pp. 547-558.
/SH/	CB	Bandow et al., "Effect of the Growth Temperature on the Diameter Distribution and Chirality of Single-Wall Carbon Nanotubes", The American Physical Society, Physical Review Letters, Vol. 80, No. 17, (1998), pp. 3779-3782.
/SH/	CC	Bethune et al., "Cobalt-Catalysed Growth of Carbon Nanotubes with Single-Atomic-Layer Walls," Nature, 363:605-607, Jun 1993.
/SH/	CD	V. Brotons et al., "Catalytic influence of bimetallic phases for the synthesis of single-walled carbon nanotubes", JOURNAL OF MOLECULAR CATALYSIS, A: Chemical 116 (1997) 397-403.

EXAM INIT.		<p style="text-align: center;"><b>NON PATENT DOCUMENTS</b></p> <p>Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published</p>
/SH/	CE	Cassell et al., "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes", AMERICAN CHEMICAL SOCIETY, pp. 6483-6492, 1999.
	CF	Chaturvedi et al., "Properties of pure and sulfided NiMoO <sub>4</sub> and CoMoO <sub>4</sub> catalysts: TPR, XANES and time-resolved XRD studies", Database Accession No. EIX99044490981 XP002246342, Proceedings of the 1997 Mrs Fall Symposium, Boston, MA, USA, December 2-4, 1997; Mater Res Soc Symp Proc, Materials Research Society Symposium-Proceedings, Recent Advances in Catalytic Materials, 1998, Mrs. Warrendale, PA, USA.
	CG	Che et al., "Chemical Vapor Deposition Based Synthesis of Carbon Nanotubes and Nanofibers Using a Template Method", CHEMICAL MATER. 1998, 10, PP. 260-267.
	CH	Chen et al., "Growth of carbon nanotubes by catalytic decomposition of CH <sub>4</sub> or CO on a Ni-MgO catalyst", CARBON VOL. 35, No. 10-11, pp. 1495-1501, 1997.
	CI	Cheng et al.; "Bulk Morphology and Diameter Distribution of Single-Walled Carbon Nanotubes Synthesized by Catalytic Decomposition of Hydrocarbons," Chemical Physics Letters, 289:602-610, 1998.
	CJ	Cheng et al.; "Large-Scale and Low-Cost Synthesis of Single-Walled Carbon Nanotubes by the Catalytic Pyrolysis of Hydrocarbons," Applied Physics Letters, 72(25):3282-3284, 06/25/98.
	CK	Dai et al.; "Single-Wall Nanotubes Produced By Metal-Catalyzed Disproportionation of Carbon Monoxide," Chemical Physics Letters, 260:471-475, 1996.
	CL	Database, Accession No. 1999-366878, Cano, "Canno KK", XP-002149235, 05/25/1999.
	CM	De Boer et al., "The cobalt-molybdenum interaction in CoMo/SiO <sub>2</sub> catalysts: A CO-oxidation study", Elsevier Science Ltd., Solid State Ionics 63-65 (1993), pp. 736-742.
	CN	Fonseca et al., "Synthesis of single-and multi-wall carbon nanotubes over supported catalysts", APPLIED PHYSICS A, 67, PP. 11-22, 1998.
	CO	Govindaraj et al., "Carbon structures obtained by the disproportionation of carbon monoxide over nickel catalysts", MATERIALS RESEARCH BULLETIN, Vol. 33, No. 4, pp. 663-667, 1998.
	CP	Hafner et al., "Catalytic growth of single-wall carbon nanotubes from metal particles", CHEMICAL PHYSICS LETTERS, 296, PP 195-202, 1998.
▼	CQ	Hernadi et al., "Catalytic synthesis of carbon nanotubes using zeolite support", ELSEVIER SCIENCE INC. 1996.

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		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
/SH/	CR	HYPERION CATALYSIS INTERNATIONAL Website; <a href="http://www.fibrils.com/esd.htm">http://www.fibrils.com/esd.htm</a> ; "Unique Slough Resistant SR™ Series ESD Thermoplastic Product Line Offers Reduced Particle Contamination For Demanding Electronic Applications," and Hyperion Homepage <a href="http://www.fibrils.com">http://www.fibrils.com</a> . 11/19/01
	CS	Iijima, Sumio; "Helical Microtubules of Graphitic Carbon," Nature, 354:56-58, Nov 1991.
	DA	Iijima et al.; "Single-Shell Carbon Nanotubes of 1-nm Diameter", Nature 363:603-605, Jun 1993.
	DB	Ivanov et al.; "The Study of Carbon Nanotubes Produced by Catalytic Method," Chemical Physics Letters 223:329-335, 1994.
	DC	Journet et al.; "Large-Scale Production of Single-Walled Carbon Nanotubes by the Electric-Arc Technique," Nature, 338:756-758, Aug 1997.
	DD	B. Kitiyanan et al., "Controlled production of single-wall carbon nanotubes by catalytic decomposition of CO on bimetallic Co-Mo catalysts", CHEMICAL PHYSICS LETTERS, 317 (2000), pp. 497-503, 2/4/2000.
	DE	Krishnankutty et al.; "The Effect of Copper on the Structural Characteristics of Carbon Filaments Produced from Iron Catalyzed Decomposition of Ethylene," Catalysts Today, 37:295-307, 1997.
	DF	Li et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes", SCIENCE, Vol. 274, pp. 1701-1703. 12/14/96
	DG	Rinzler et al.; "Large-Scale Purification of Single-Wall Carbon Nanotubes: Process, Product, and Characterization," Applied Physics A, 67:29-37, 1998.
	DH	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes, SCIENCE, Vol. 273, pp. 483-487. 7/26/96
	DI	I. Willems et al., "Control of the outer diameter of thin carbon nanotubes synthesized by catalytic decomposition of hydrocarbons", CHEMICAL PHYSICS LETTERS, 317 (2000) pp. 71-76.
✓	DJ	Yakobson et al.; "Fullerene Nanotubes: C <sub>1,000,000</sub> and Beyond," American Scientist, 85:324-337, Jul-Aug 1997.
EXAMINER	/Stuart Hendrickson/ (02/19/2008)	
	DATE CONSIDERED	
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**THIRD SUPPLEMENTAL  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Complete if Known	
Application Number	10/689,258
Filing Date	10/20/2003
First Named Inventor	Daniel E. Resasco et al.
Group Art Unit	1754
Examiner Name	S. Hendrickson
Attorney Docket Number	5820.640

U. S. PATENT DOCUMENTS						
EXAM INIT.	Cite No. 1	U.S. PATENT NUMBER Number	Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/SH/		5424054		Bethune	06/13/1995	
		5456897		Moy et al.	10/10/1995	
		5500200		Mandeville et al.	03/19/1996	
		5747161		Iijima	05/05/1998	
		6099965		Tennent et al.	08/08/2000	
		6221330		Moy et al.	04/24/2001	
		6312303		Yaniv et al.	11/06/2001	
		6401526		Dai et al.	06/11/2002	
		6413487		Resasco et al.	07/02/2002	
		6426134		Lavin et al.	07/30/2002	
		6432866		Tennent et al.	08/13/2002	
		6479939		Yaniv et al.	11/12/2002	
		6573643		Kumar et al.	06/03/2003	
		6580225		Yaniv et al.	06/17/2003	
		6596187		Coll et al.	07/22/2003	
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✓		6656339		Talin et al.	12/02/2003	

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/SH/		6683783		Smalley et al.	01/27/2004	
		6699457		Cortright et al.	03/02/2004	
		6752977		Smalley et al.	06/22/2004	
		6761870		Smalley et al.	07/13/2004	
		6936233		Smalley et al.	08/30/2005	
		6939525		Colbert et al.	09/06/2005	
		60/101093		Smalley et al.	09/18/1998	
		60/106917		Smalley et al.	11/03/1998	
		60/114588		Smalley et al.	12/31/1998	
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		2002/0084410		Colbert et al.	07/04/2002	
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		US2002/0127171A1		Smalley et al.	09/12/2002	
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		US2003/0180526A1		Winey et al.	09/25/2003	
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		Office 3	Number 4	Kind Code5 (if known)				
/SH/			PCT/US03/19664		International Search Report	03/31/2004		
			WO 00/26138		PCT/US	05/11/2000		
			WO 02/060813A2		PCT/US	08/08/2002		
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			WO 04/001107		PCT/US	12/31/2003		
			EP 01 93 9821		European Search Report	06/09/2004		
			EP 0 945 402 A1		SHIMADZU CORP; Res. Inst. Innovative Tech. Earch	09/29/1999		
			JP 06/228824		Japanese Patent			X
			JP 11/139815		Japanese Patent	05/25/1999		X


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EXAM INIT.		
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/SH/		BANDOW ET AL., "Purification of Single-Wall Carbon Nanotubes by Microfiltration," <i>J.Phys.Chem.B</i> , Vol. 101, (1997) pp 8839-8842.
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		TIARKS et al., "Silica Nanoparticles as Surfactants and Fillers for Latexes Made by Miniemulsion Polymerization", Langmuir, American Chemical Society, vol. 17, pp. 5775-5780, 2001.
✓		ZHAO, et al., "Chromatographic Purification and Properties of Soluble Single-Walled Carbon Nanotubes", American Chemical Society, Page Est: 4.1, pp. A-E, 02/22/2001.
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